

CLAIMS

1. A method for determining volumes in human bodies or animal bodies, wherein image data of an interesting volume are acquired by means of a suitable imaging method and the acquired image data are segmented in a manual, semi-automated or fully automated fashion, and wherein dimensional information on the interesting volume is automatically determined from the segmented image data, characterized by the fact

that at least one characteristic value is assigned to the steps in which the image data is acquired and segmented, with said characteristic value representing a measure for the error occurring in these steps, by the fact

that an error which represents a measure for the error occurring during the determination of the dimensional information is determined from the assigned characteristic value, and by the fact

that the error value is displayed or output, respectively, preferably together with the assigned dimensional information.

2. The method according to Claim 1, characterized by the fact that at least one characteristic value is also assigned to the interesting volume and taken into consideration when determining the error value of the dimensional information.

3. The method according to Claim 1 or 2, wherein the segmenting process is carried out in a manual or semi-automated fashion, characterized by the fact that at least one personal characteristic value is assigned to each person carrying out the method and taken into

consideration when determining the error value of the dimensional information.

- 5 4. The method according to Claim 3, characterized by the fact that the personal characteristic value assigned to each person is determined automatically.
- 10 5. The method according to Claim 4, characterized by the fact that the automatic determination of the characteristic value assigned to a person is realized based on a manual or semi-automated segmenting process which is carried out by the respective person with predetermined test data.
- 15 6. The method according to one of Claims 1 - 5, characterized by the fact that the at least one characteristic value assigned to the step in which the image data is acquired contains at least one measure from the following group of measures: signal-to-noise ratio, tissue contrast, pitch, increment, sequence parameters, layer thickness, matrix size, filter used.
- 20 7. The method according to one of Claims 1 - 6, wherein a semi-automated or automated segmenting process is carried out, characterized by the fact that the at least one characteristic value assigned to the step in which the segmenting is carried out contains a measure for the accuracy of a segmenting method used for the segmenting process and/or a measure for the reproducibility of the results of the segmenting method used.
- 25 8. The method according to Claim 2, characterized by the fact that the at least one characteristic value assigned to the interesting volume contains a measure for the size and/or the shape of the interesting volume.
- 30 35 8. The method according to Claim 2, characterized by the fact that the at least one characteristic value assigned to the interesting volume contains a measure for the size and/or the shape of the interesting volume.

9. The method according to one of Claims 1 - 8, characterized by the fact that the interesting volume consists of the volume of a tumor.

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10. The method according to one of Claims 1 - 8, characterized by the fact that the interesting volume consists of the volume of an organ.

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11. A device for determining volumes in human bodies or animal bodies, with means for inputting image data of an interesting volume, with means for segmenting the image data in a manual, semi-automated or fully automated fashion, and with means for automatically determining dimensional information on the interesting volume from the segmented image data, characterized by the fact

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that at least one data memory is provided, by the fact

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that characteristic values which can be assigned to the input and/or the segmented image data in accordance with predetermined criteria are stored in the at least one data memory, and by the fact

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that the means for automatically determining the dimensional information are coupled to the at least one data memory and designed such

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that they are able to read the characteristic values out of the data memory and determine an error value from the characteristic values which represents a measure for the error occurring in the determination of the dimensional information.

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12. The device according to Claim 11, characterized by the fact that a characteristic value which is assigned to the interesting volume is stored in the data memory.

5 13. The device according to Claim 11 or 12, characterized by the fact that means are provided for displaying and/or outputting the determined dimensional information and the determined error value.

10 14. The device according to one of Claims 11 - 13, characterized by the fact that characteristic values for each person operating the device are stored in at least one data memory that is coupled with the means for determining the dimensional information.

15 15. The device according to Claim 14, characterized by the fact that a data memory, with test data records is provided, wherein the person operating the device is able to carry out a manual or semi-automated test
20 segmenting process on said test data records.

16. The device according to Claim 15, characterized by the fact that means are provided for evaluating the test segmenting process, as well as for determining and
25 storing a personal characteristic value for the respective person.

17. The device according to Claim 16, characterized by the fact that a data record is assigned to the personal
30 characteristic values, wherein said data record identifies the test data record/test data records used for determining the respective characteristic value.

18. A medical imaging apparatus with a device according to
35 one of Claims 11 - 17.

19. A utilization of a device or a medical apparatus according to one of Claims 11 - 18 for determining the volume of a tumor.

5 20. The utilization of a device or medical apparatus according to one of Claims 11 - 18 for determining the volume of an organ.